

A NEW SPECIES OF *ARGYROLOBIUM* (FABACEAE) FROM THE SOUTHERN CAPE

CHARLES STIRTON*

(The Herbarium, Royal Botanic Gardens, Kew, Richmond, Surrey TW9 3AE, England)

ABSTRACT

Argyrobium brevicalyx C. H. Stirton, is described as new. This rare, rather atypical, species of *Argyrobium* is confined to Bokkeveld shales in renosterveld of the Bredasdorp Region of the Cape of Good Hope.

UITTREKSEL

'N NUWE SPECIES *ARGYROLOBIUM* (FABACEAE) VANAF DIE SUID-KAAP

Argyrobium brevicalyx C. H. Stirton word as nuut beskryf. Hierdie skaars byna atipiese species *Argyrobium* is beperk tot die Bokkeveld-skalie in renosterveld van die Bredasdorpstreek van Kaap die Goeie Hoop.

Key words: *Argyrobium*, sp. nov., Fabaceae, southern Cape.

***Argyrobium brevicalyx* C. H. Stirton, sp. nov.**

Frutex parvus. *Folia* digitate trifoliolata. *Foliola* 7-11 mm longa, 3-6 mm lata, conduplicata, obovata, valde recurvato-mucronata, basi cuneata; lateralibus breviora. *Stipulae* liberae juxta basin petioli obviae, late ovatae, longe persistentes. *Inflorescentiae* 1-3 florum, in surculis brevibus positae. *Flores* 8,0-8,5 mm longi, luteoli. *Dentes* calycis inaequales, breviores quam corolla. *Vexillum* late ovatum, vix auriculatum, unguiculatum. *Alae* longiores quam carina. *Androecium* monadelphum, adaxialiter fissum.

Type: CAPE—3420 (Bredasdorp): Flats along watercourse 1 km SSE of Uitvlug farm, along road between Bredasdorp and Swellendam, 15 km SW of Swellendam (-AA), 1/10/83, *Burgers 3188* (K, holotype: STE, isotype).

Small shrub up to 400 mm tall, branching at the base. *Leaves* digitately trifoliolate; petiole 2-5 mm long, furrowed. *Stipules* 3-5 mm long, broad

* B.A. Krukoff Botanist.

Accepted for publication 26th April, 1984.



FIG. 1.

Flowering shoot of *Argyrolobium brevicalyx* (Burgers 3188) showing structure of inflorescences and recurved conduplicate nature of leaflets.

based, broadly ovate, free, patent upcurving, sericeous outside, glabrescent inside. *Leaflets* 7–11 mm long, 3–6 mm wide, subsessile, terminal leaflet larger, obovate, arcuate, somewhat conduplicate, base cuneate, sericeous but sparsely so on abaxial surface. *Inflorescences* terminal on short axillary shoots, 1–3-flowered (Fig. 1), peduncle 10–14 mm long. *Flowers* 8,0–8,5 mm long, light yellow, ebracteolate; pedicel, 2–3 mm long. *Calyx* 6 mm long, tube 3,0–3,5 mm long; vexillar teeth 2,0–2,5 mm long, equally broad at base; lateral and keel lobes mutually coherent to a tripartite lip, narrower, same length as vexillar lobes; sericeous outside, glabrous inside; calyx much shorter than the standard, scarcely bilabiate, not as in most *Argyrolobiums*. *Standard* 10 mm long, 7,0–7,5 mm wide; claw 3 mm long, 1 mm wide; blade broadly ovate, apex rounded to slightly emarginate, scarcely auriculate, sericeous along the midrib at the back; appendages present, scarcely swollen. *Wing petals* 9,0–9,5 mm long, blade 3–4 mm wide, claw 3 mm long, longer than the keel but tips curve in and rest against the sides of the keel so exposing the apex of the keel, auriculate; sculpturing upper basal and upper central, intracostal comprising 3–4 rows of 8–10 irregular lunae

gradually becoming smaller and diffuse towards the upper rim. *Keel petals* fused from the apex for one-third their length as far as the point of flexure; blade 5–6 mm long, 3 mm wide, infolded slightly near junction of blade with the claw. *Androecium* 9 mm long, monadelphous, slit on adaxial side; anthers dimorphic with 5 linear-oblong basifixed anthers alternating with 5-ovate dorsifixed anthers, terminal anther narrowly-ovate-oblong and intermediate in size. *Pistil* 9 mm long; ovary 6 mm long, compressed, subsessile, villous as far as point of flexure; height of curvature 3 mm; stigma minute. Fruits and seeds unknown. (Fig. 2).

Argyrolobium brevicalyx is an exciting discovery. The species was collected by Mr. C. J. Burgers of the Department of Nature and Environmental Conservation, Provincial Administration of the Cape of Good Hope.

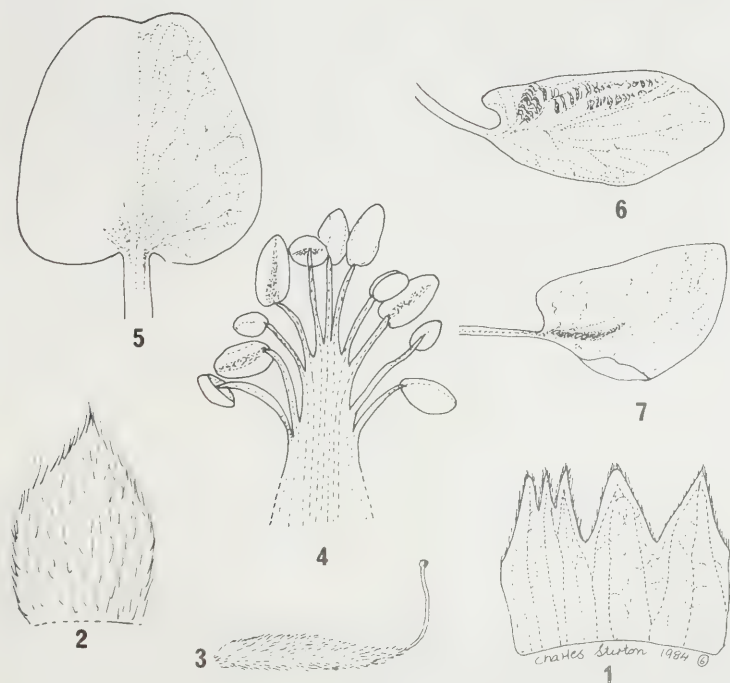


FIG. 2.

Argyrolobium brevicalyx (Burgers 3188): 1. Calyx opened out, $\times 4$; 2. Stipule, $\times 15$. 3. Pistil, $\times 4$; 4. Apex of androecium opened out, $\times 10$; 5. Standard, $\times 4$; 6. Wing petal, $\times 4$; 7. Keel, $\times 4$.

Mr Burgers has already discovered two other rare and unusual species: *Argyrolobium canescens* C. H. Stirton and *Polhillia pallens* C. H. Stirton, and I am grateful to him for the care and generosity with which he has expedited my requests for seeds and photographs.

A feature of most species of *Argyrolobium* is that their androecia are tubular. The majority also have calyces that are distinctly bilabiate, usually deeply cleft. *A. brevicalyx* is an exception. In this species the calyx is scarcely bilabiate and unlike other *Argyrolobiums* the calyx is markedly shorter than the corolla. Flowers of this species also have an androecium which, although monadelphous, is split adaxially almost to the base. Another unusual feature is the pseudo-capitate nature of the inflorescences.

When I first saw this plant I was uncertain as to which genus it belonged. Although I keyed it out to the tribe Crotalarieae (Polhill, 1976; 1981) without any difficulty I was unable to key it out to a genus to which it seemed naturally to belong. In Polhill (1976) it keys out to *Dichilus*, if one gives weight to the corolla being longer than the calyx; to *Argyrolobium*, if one interprets the stipules as not being semi-sagittate or semi-cordate. The former genus does not possess stipules, as it is currently circumscribed, and in the latter the calyx is rarely shorter than the corolla and if it is then the calyx is distinctly bilabiate. From *Polhillia* (Stirton, 1984) it differs in the stipules being free and not involucrate and in the terminal anther being intermediate in size. *A. brevicalyx* does share some features with *A. canescens* and *A. connatum* but differs in inflorescence structure and its non-involucrate stipules. These three species of *Argyrolobium*, together with *A. lotioides* Harv., stand apart from the rest of the genus. However, notwithstanding the features which make *A. brevicalyx* an anomalous inclusion in *Argyrolobium*, I am including it in this genus as it approximates this genus better than any of the genera that are available.

SPECIMEN EXAMINED

As for type

DISTRIBUTION

Argyrolobium brevicalyx was found growing in renosterveld in clayey soils derived from Bokkeveld shales. Only a single specimen (Fig. 3) was found in a narrow remnant strip of renosterveld along a watercourse and was surrounded by wheatfields. From Mr. Burger's observations (pers. comm., 1984), it is clear that *Argyrolobium brevicalyx* is an endangered species. He visited a number of renosterveld patches in the Protea area on October 1983 but did not see any other plants of what is a conspicuous

species in flower. Is it possible that the discovery of *A. brevicalyx* is almost an epitaph? One wonders how many other species have been lost in the wheatfields of the south western and southern Cape.

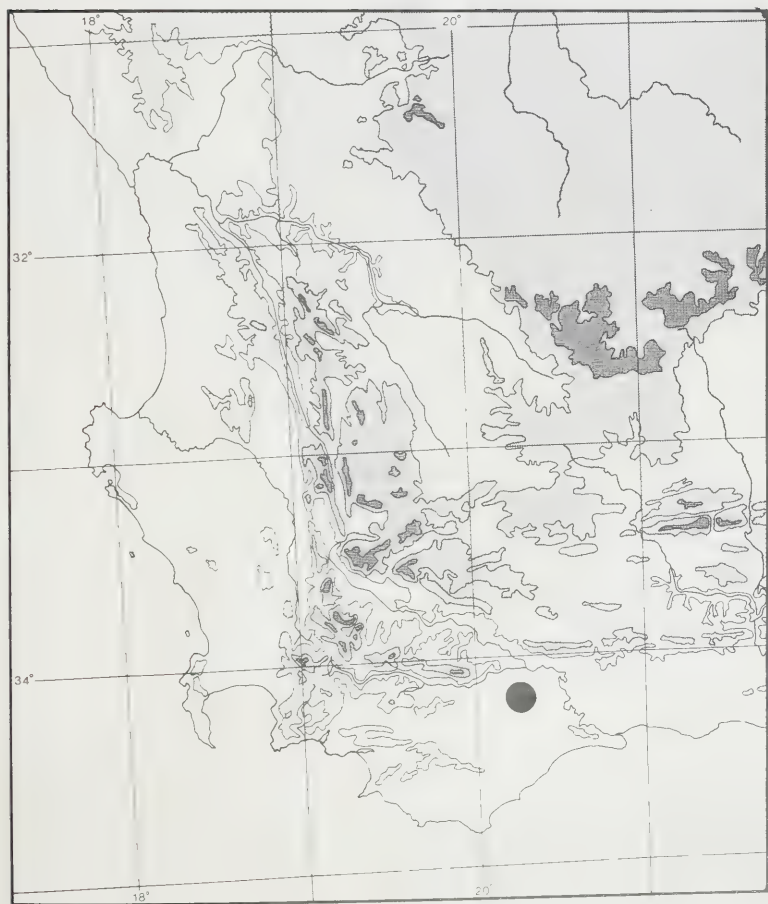


FIG. 3.
Known distribution of *Argyrolobium brevicalyx* (●).

REFERENCES

- POLHILL, R. M., 1976. Genisteae (Adans.) Benth. and related tribes (Leguminosae). *Bot. Syst.* **1**: 143–368.
- POLHILL, R. M. 1981. Papilionoideae. In: Polhill, R. M. and Raven, P. (eds.), *Advances in Legume systematics*, 191–208. Kew: Royal Botanic Gardens.
- STIRTON, C. H., 1984. *Polhillia*, a new genus of Papilionoid legumes endemic to South Africa. *S. Afr. J. Bot.* (in press).